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Telecommunications Industry Association 1133 21st Street, NW Third Floor Washington, DC 20036 202-785-0081 Telephone 202-785-0721 Fax

July 22, 1993

Building The Wireless Future ...

Mr. William F. Caton Acting Secretary Federal Communications Commission 1919 M Street, NW, Room 222 Washington, DC 20554

e. ET Doc

ET Docket No. 93-62 Ex Parte Presentation RECEIVED

**UUL 2 2 1993** 

FEDERAL COMMUNICATIONS COMMISSION OFFICE OF THE SECRETARY

Dear Mr. Caton:

On Thursday, July 22, 1993, the Cellular Telecommunications Industry Association ("CTIA") sent the attached information kit on its electromagnetic radiation health and safety program to the following Commissioners and FCC staff:

Beverly Baker
Lauren Belvin
Robert Cleveland
Commissioner Ervin Duggan
Bruce Franca
Jeffrey Hoagg
Kathy Levitz
Steve Markendorff
Myron Peck
Chairman James Quello
Dr. Tom Stanley

Commissioner Andrew Barrett

John Cimko

Randall Coleman Brian Fontes Ralph Haller

Stevenson Kaminer Byron Marchant

Linda Oliver

Dr. Robert Pepper David Siddall

Gerald Vaughan

If there are any questions in this regard, please contact the undersigned.

Sincerely,

Michele C. Farquhar

No. of Copies rec'd\_

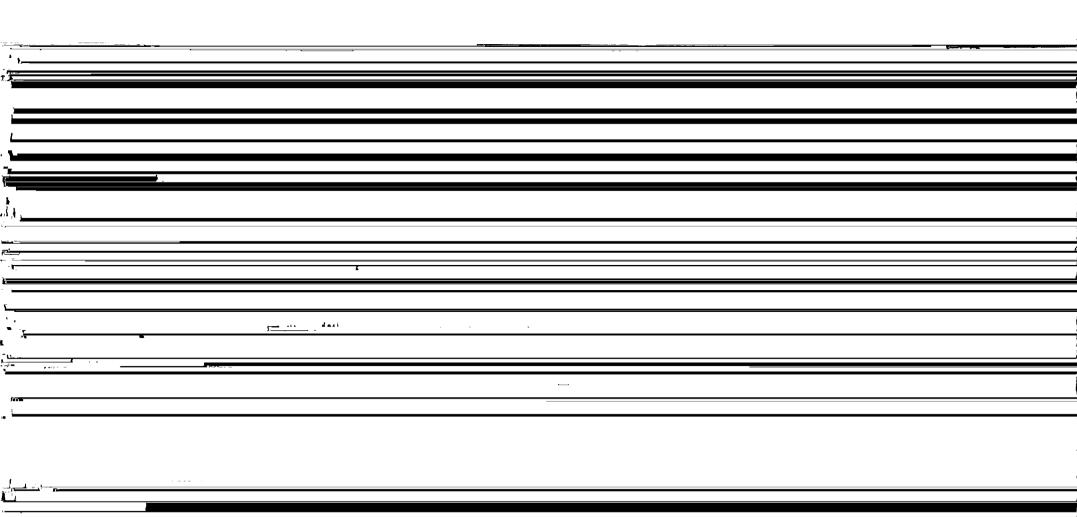
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Enclosure

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# Cellular industry's research finds no link to cancer



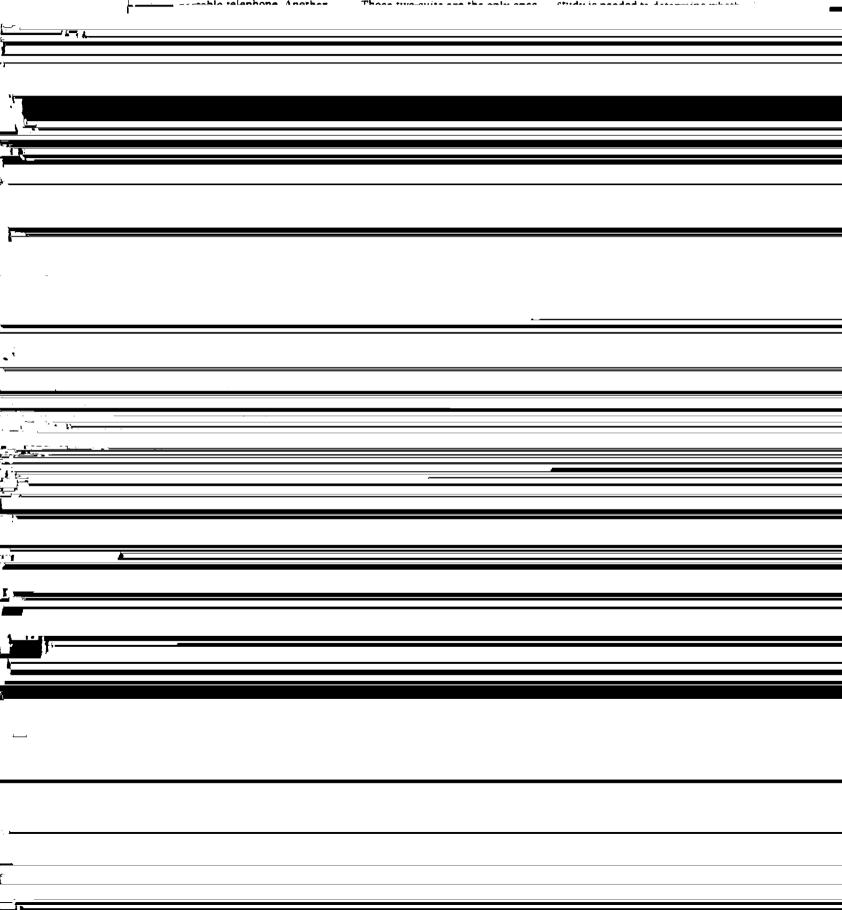
# **PHONES**

From page C1

discuss his lawsuit, which says his wife contracted brain cancer from

in the Motorola suit had failed to prove that the telephones posed a health hazard. The judge denied the plaintiffs' attempt to make the suit a class action on behalf of cellular phone users. public attention. In the meantime, entrepreneurs have emerged with shields they say will block telephone radiation.

In February, a panel of experts testified before Congress that more



# Cellular

CONTINUED FROM PAGE 1
rigorous scientific research, and
the open dialog the industry is
taking to not only answer
questions but to reassure the

The cellular-telephone industry, stung by fears that cellular phone we causes brain canceraid Friday that an initial review of existing studies but turned up no each link.

"The studies we have an lyand so far do not suggest linkage with cancer," sat George Carbs, an estable scientist who is directing the it

Industry

v51753exec

r w. AP-CellularPhones-Cancer 07-16 0306

AP-Cellular Phones-Cancer Cellular Phone Industry Study Finds No Link To Cancer

WASHINGTON (AP) - The cellular telephone industry said Friday that its research since a cancer scare six months ago has found no link between the disease and exposure to cellular frequencies.

Still, said Thomas E. Wheeler, president of the Cellular Telecommunications Industry Association, the industry has pledged to spend \$15 million to \$25 million in the next three to five years for studying the issue.

The research has involved looking at thousands of studies bearing on the relationship of electromagnetic radiation on human health," said George L. Carlo, an epidemiologist who heads the study.

'When we have identified what's known, we can then identify what is unknown,' he told a news conference.

'None of these studies suggest any relationship between cellular phones and cancer,' Wheeler said. The findings will be reviewed by a peer group and research will begin in the fall into any areas where questions remain.



# REPORT TO AMERICA

Telecommunications
Industry Association
1133 21st Street, NW
Third Floor
Washington, DC 20036
202-785-0081 Telephone
202-785-0721 Fax

Building The Wireless Future

### CTIA HEALTH & SAFETY PROGRAM

What the Cellular Industry Has Done Since The "Cancer Scare"

-Six Months-January - July 1993



Telecommunications Industry Association 1133 21st Street, NW Third Floor Washington, DC 20036 202-785-0081 Telephone

Despite the many research studies showing that cellular is safe, it has become necessary to reassure those whose doubts have been raised by this scare.

It is time for truth and good science to replace emotional videotape and unsupported allegations.

Building The Wireless Future ...

202-785-0721 Fax

Therefore, the cellular telecommunications industry is today announcing that it will fund research to re-validate the findings of the existing studies, which have found that the radiowaves from cellular phones are safe.

Statement by Thomas E. Wheeler President, CTIA News Conference, Washington D.C. January 29, 1993

#### Following up that commitment, the following steps have been taken:

- 1. Cellular Carriers, phone manufacturers, infrastructure manufacturers form Joint Review Committee to oversee research.
- 2. Industry pledges to fund research.
- 3. Meetings held with FDA and other government agencies.
- 4. Three-member Scientific Advisory Group formed.
- 5. Peer-Review Board of world-class scientists recruited. Blind trust established to assure credibility.
- 6. Integrated Assessment of Existing Data launched (completed: September).
- 7. Scientific Research undertaken in areas needing further study (starts late 1993).

[Details attached]

#### CELLULAR PHONE SAFETY RESEARCH PROGRAM

#### **Scientific Advisory Group**

- George L. Carlo, Ph.D., M.S., J.D.
  - Chairman, Health and Environmental Sciences Group, Ltd.
  - Adjunct Professor, The George Washington University School of Medicine, Washington, DC
  - Adjunct Professor, State University of New York of Buffalo
- Arthur W. Guy, Ph.D.
  - Professor Emeritus, University of Washington, Seattle, Washington
- Ian C. Munro, Ph.D., FRCPath
  - Principal, CanTox Inc., Toronto
  - Adjunct Professor, University of Guelph, Guelph, Ontario

#### CELLULAR PHONE SAFETY RESEARCH PROGRAM

#### Peer Review Board

- Patricia Buffler, Ph.D., M.P.H.
  - University of California at Berkeley
- Philip Cole, M.D., Dr. P.H.
  - University of Alabama at Birmingham
- Sir Richard Doll, F.R.S., F.R.C.P.
  - University of Oxford
- Om P. Ghandi, Sc.D.
  - University of Utah
- Saxon Graham, Ph.D.
  - State University of New York at Buffalo
- Don Justesen, Ph.D.
  - University of Kansas and VA Medical Center
- Richard Monson, M.D., Sc.D.
  - Harvard University
- Dimitrios Trichopoulos, M.D.
  - Harvard University
- Gary Williams, M.D.
  - American Health Foundation

## CELLULAR PHONE SAFETY RESEARCH PROGRAM

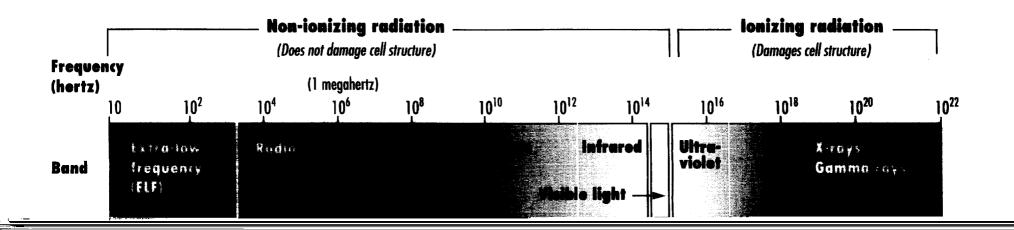
## 1993 Timeline

	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Joint Review Committee formed			<b>-</b>								
Task Forces formed			<b>-</b>								
Scientific Advisory Group formed				<b>-</b>			<b></b> -				
Peer Review Board assembled											
FDA meeting											
Integrated assessment of existing data											
PRB review											
FDA/IWG review											
Commence research agenda											
PRB review											
FDA/IWG review											
Ongoing research										19 <del>9</del> 4	ı

#### GEORGE L. CARLO, Ph.D., M.S., J.D.

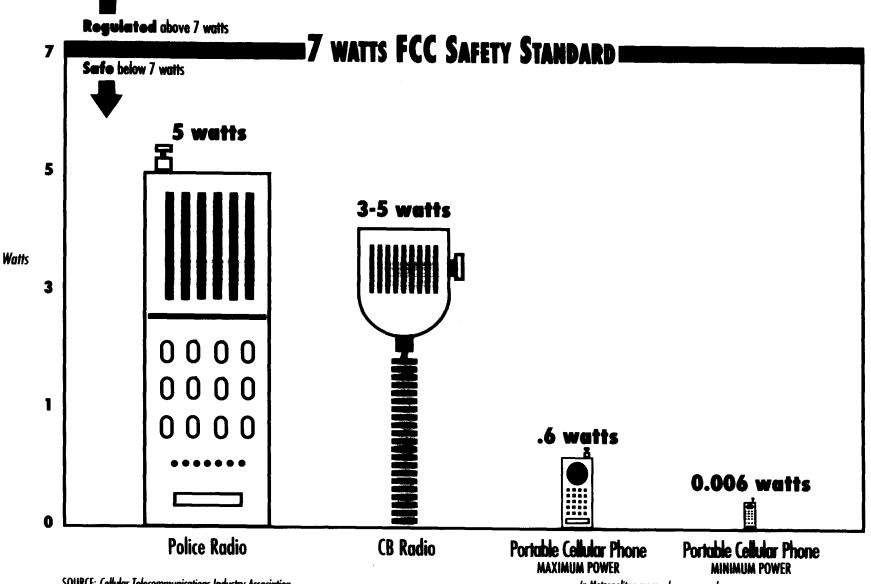
George Carlo is a Fellow of the American College of Epidemiology. He is the chairman of Health & Environmental Sciences Group, Ltd. (HES), which specializes in assessing, communicating and managing risks to health, including risks from the environment, consumer products and pharmaceuticals. HES's trained professionals also analyze the efficacy of drugs and medical devices. Dr. Carlo serves on the faculties of George Washington University, the State University of New York at Buffalo School of Medicine, and the Roswell Park Memorial Institute. While at the University of Arkansas for Medical Sciences, he chaired the research committee of the Department of Family and Community Medicine and designed the acute and chronic clinical work performed by that department. Dr. Carlo sits on the U.S. Congress Office of Technology Assessment Agent Orange Advisory Panel, is Chairman of the Scientific Advisory Board on cement kiln recycling, and is a scientific advisor to the Industry Task Force II on 2, 4-D Research Data and the Fernz Corporation group of Australian and New Zealand manufacturers. He has also participated in other government expert panels and workshops. Dr. Carlo has published numerous research articles, commentaries, chapters in books and health policy papers addressing issues in the health sciences. He has testified before Congress and other government and regulatory committees. Dr. Carlo often speaks at seminars and is frequently consulted for television, radio and newspaper interviews. He earned his B.A., M.S., and Ph.D. degrees from the State University of New York at Buffalo and his J.D. degree from George Washington University. Dr. Carlo has been listed in Who's Who Among American Law Students, Who's Who in Science and Engineering and Who's Who in the World.

# WHERE CELLULAR PHONES FIT ON THE ELECTROMAGNETIC SPECTRUM



# RADIO-FREQUENCY POWER LEVELS

CELLULAR PORTABLE POWER WELL BELOW
1982 FCC SAFETY STANDARD

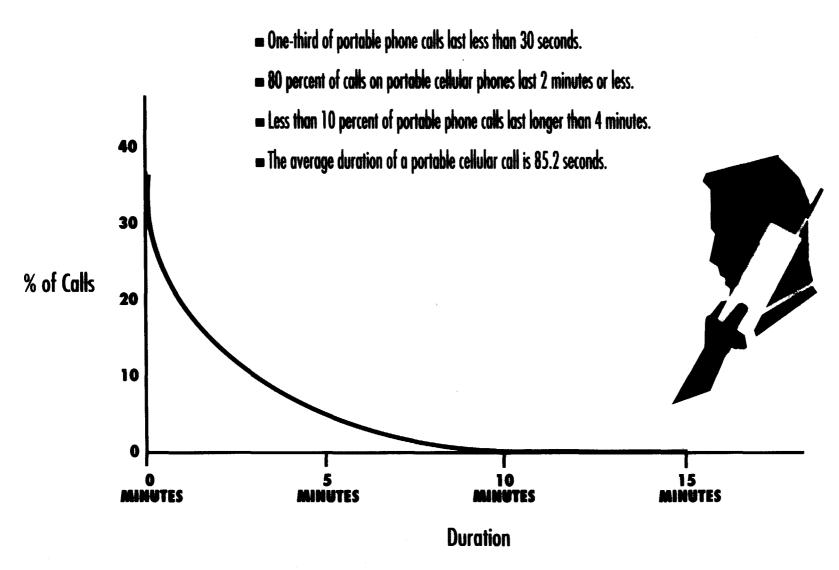


SOURCE: Cellular Telecommunications Industry Association

In Metropolitan areas, phone power decreases as more cells are built closer together.

# PORTABLE CELLULAR CALL DURATION

CELLULAR SURSCRIBERS KEEP THEIR PORTABLE CALLS SHORT



SOURCE: Cellular Telecommunications Industry Association study of more than 6 million calls in multiple markets

## Update '93

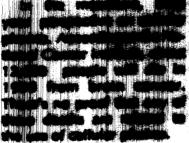
#### News and our views

#### Can cellular phones cause brain cancer?

A Florida lawsuit recently raised questions about whether certain types of cellular telephones (those with built-in antennas) lead to brain cancer.

Cellular phones operate at the lowest end of the microwave portion of the electromagnetic spectrum — the same frequency band as television. They conform to guidelines set by the Federal Communications Commission for acceptable emission levels of electromagnetic radiation.

There's no proof that microwave radiation from cellular phones carries a health risk. Yet, because there's a lack of thorough long-term studies, the Food and Drug Administration is working with other federal agencies and industry to resolve questions over the safety of these cellular phones.



In contrast, 146,000 people will die from lung cancer this year — despite the fact that we know what causes most lung cancer and how to prevent it.

#### **EDITORIAL DESK**



Bob Chapin Editorial Director

#### **ADDRESSING EMF CONCERNS**

o many, it almost seemed to come out of nowhere. At first, it was a relatively low-profile suit filed against NEC by a man in Florida who claimed that his wife's death from a brain tumor was caused by the electromagnetic fields from a cellular phone. Before long, it was the hottest topic on television.

"Do portable cellular phones cause brain cancer?" The cry was heard around the world, literally. While in Santiago, Chile, I watched the coverage of Motorola's press conference on CNN International. According to contacts in Europe, they didn't need to hear about it from their U.S. associates. They could read about the allegations in their own local newspapers.

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TECHNOLOGY

# THE EMF THREAT: Health HAZARD or HYPE?

Sorting out fact from fiction

By Randy Ridley Technical Editor

o business radios and cellular phones increase users' susceptibility to various negative health effects? More and more attention is being placed on the issue of potentially adverse health effects from non-ionizing radiation, and the general populous does not seem to differentiate between extremely low frequency (ELF), Ultra high frequency (UHF) and microwaves. This publications is the limit of the limit o

There are two kinds of radiation: ionizing and non-ionizing radiation. Ionization occurs when there is enough energy in the radiation to displace an electron from an atom. This radiation has a very short wavelength, a high frequency, and a high energy level, and is typically described as X-rays, gamma rays, and particles. These can interact with the tissues of the body and cause severe cellular damage. Documentation shows that their interactions can result in the generation of highly reactive chemical species. Whole body radiation causes acute damage to blood forming tissues, the gastrointestinal tract, and the nervous system. Longterm exposure can result in cancer.

By contrast, non-ionizing radiation in-

cludes RF radiation (300 kHz-300 MHz), microwaves (300 MHz-300 GHz), infrared, visible, and ultraviolet light. Additionally, ELF and magnetic radiation also fall in this category. Nonionizing radiation is commonly described as radiation that passes through matter without dislodging electrons from atoms, and the biological effects of this form of energy are not very clear.

Prior to 1940, there was very little non-ionizing EMF in the ambient levels of the environment. In the last 50 years, however, the levels have risen dramatically due to increased use of telecommunications, satellite communications, radar, power lines, and many household appliances. Exposure to high levels of this form of energy has been shown to affect living tissue by a generalized heating effect, but scientists have long felt that exposure to low levels of this type of energy was relatively harmless to human health.

## THE CATALYST OF CONTROVERSY

Most public concern arises from an April 11, 1992 complaint that was filed in the Circuit Court for Pinellas County, Fla. by a woman, Susan Ellen Reynard, and her husband, H. David Reynard. The suit was filed against NEC America Inc., the manufacturer of Susan Reynard's telephone; Costal Radiotelephone Inc., the company that sold the

phone; and GTE Mobilenet of Tampa Inc., the company that provided the cellular service.

The complaint alleges that Susan Reynard was diagnosed with a brain tumor which resulted in cancer, and that the tumor was a direct result of the radiation emitted by her cellular telephone.

Although the suit deals with cellular telephones, it raises the question of whether any of the modern wireless communications devices can actually be considered as benign as once was thought. Satellite communications, business radio, and personal communications all rely on the same basic principle of radio frequency on nearly the same frequencies. Obviously, any potential findings can have a considerable impact on the future of wireless communications.

#### **BODY OF EVIDENCE**

In the last 40 years, there have been more than 10,000 studies performed pertaining to the effects of RF and microwave energy on living organisms. At first glance, the sheer number of the studies seems reassuring, since none of them have been able to define any connection to cancer. However, most of the studies have dealt with localized heating effects of RF radiation (the same principle that microwave ovens operate on). As a result, experts have been able to document the generation of heat

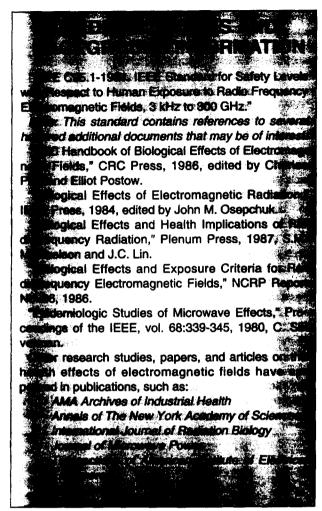
from energy absorption in the tissue. The FCC currently uses a safety standard developed by ANSI (American National Standards Institute) in 1985 that is based upon the known heating effects of RF radiation. This standard is usually considered inadequate by most scientists, as it does not consider the effects of magnetic radiation on cellular activity, nor does it consider the possibility of cancer generation or acting as a catalyst for tumor growth. Only recently have studies been directed at these issues, and most have not yet been completed.

Gary Breed, editor of Communications sister publication RF Design, states, "The problem with most of the current studies that have dealt with cancer and RF radiation is that there is usually no control group...[or] the study is too short in duration to obtain accurate results." Even if a particular study indicates that there may be a problem with RF radiation, the absence of a control group to compare the results with seriously compromises its validity. As an example, Dr. Samuel Milham, of the Washington State Dept. of Social and Health Services, tried to examine data collected from the death certificates of amateur radio operators in Washington and California. His studies found that Amateur radio operators had a higher incidence of leukemia than the general populous, drawing the conclusion that Amateur radio was hazardous to human health. Unfortunately, no effort was made to identify or quantify the effects مطفوه طمينه ومأطوشمير ممطفو كو

absorption rate of different frequencies is not the same in tissue, however, and it would be incorrect to say that all non-ionizing radiation carries the same health risk.

Recently, there have been a number of studies that have attempted to correct the shortfalls of earlier studies. Areas such as control groups and length of the studies are now being addressed and as a result, enlightening information is being unearthed. Dr. W. Ross Adey, associate chief of staff for research and development at the Pettis Memorial VA Medical Center at Loma Linda. Calif., writes in his keynote address to the IEEE 1992 International Symposium on Electromagnetic Compatibility, "...Importantly, these non-ionizing fields are considered incapable of directly damaging DNA in cell nuclei." But goes on to say, "Instead, their action in tumor formation

may be as promoters, acting intermittently and repeatedly at cell membranes, possibly concurrently with chemical promoters." That is to say, non-ionizing



#### THE ANSI STANDARD

Most experts agree that the current FCC safety levels, in which anything below 7 watts is considered safe, are not

In addition, many of the witnesses cited ongoing or planned research regarding the use of cellular frequencies.

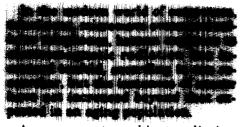
#### NOT ALL RADIATION IS EQUAL

Should users be alarmed at the possible safety hazards of non-ionizing radiation? In the case of portable communications, prudent caution is more warranted than alarm. Although there isn't any evidence at this point that microwaves cause or enhance tumors or



# **CTIA** looking to researchers for RF safety

By Seth Malgieri



As exposure to ambient radiation has increased, so has public concern about its safety. That concern has crossed into the cellular industry as a result of a lawsuit filed by a Florida man who alleges a cellular telephone caused the brain cancer that killed his wife (RCR, Feb. 15, 1993, p. 1).

Fears that cellular phones may cause cancer have put the industry on the offensive, and the Cellular Telecommunications Industry Association said it plans to solicit funds from its members to gather results from on-going studies on electromagnetic frequencies, or EMFs, in the cel-

Cellular radio waves pose no threat to human health, according to a CTIA white paper. "Cellular telephones operate in the same frequency band used by UHF television. The fact that cellular conversations are occurring over the airwaves is no more threatening than the radio and TV signals that surround your home," the paper

The concern is not so much about ambient radio waves as it is about signals sent to and from antennae on the portable phones that callers hold near their heads.

Tests on electromagnetic radiation from ultra-high frequencies, or UHFs, have been more extensive than tests done at extremely low frequencies, or ELF, the range where power lines transmit.

Swedish studies have shown that children exposed to weak ELF magnetic fields, such as the 60 Hz emitted by power lines, develop leukemia at about four times the expected rate.

UHF energy penetrates the skin in relatively small portions, according to research, as opposed to frequencies between 30 MHz and 300 MHz, which are considered resonant frequencies and penetrate matter easier, according to CTIA.

Chie restate conducted to date.

Human head models exposed to 2.4 GHz radiation for 23 hours a day over six months showed no signs of thermal effects, according to a Guy study done in 1980. The radiation was emitted at a specific absorption rate. or SAR, of 17 watts per kilogram.

Federal Communications Commission regulations limit peak SAR to eight watts per kilogram, and SAR averaged over the body to 0.4 watts per kilogram.

ta de la compania del compania de la compania del compania de la compania del comp ined electromagnetic radiation's effects on cancer growth.

Cleary noted that cancer cells grew faster during the course of a few days when exposed to radio frequencies much greater than those emitted by portable cellular phones. Cleary has attested to the safety of possible cellular phones, as has Dr. ? Striction Storm, who said sputies on humans refute the finding that RF radiation according to a professor Department of Surgery and Oncome, and seconds director of the university's Comprehensive Cancer Center in Madison. While noting that public expenses to mission electronical in the past 50 much greater than those emitted by

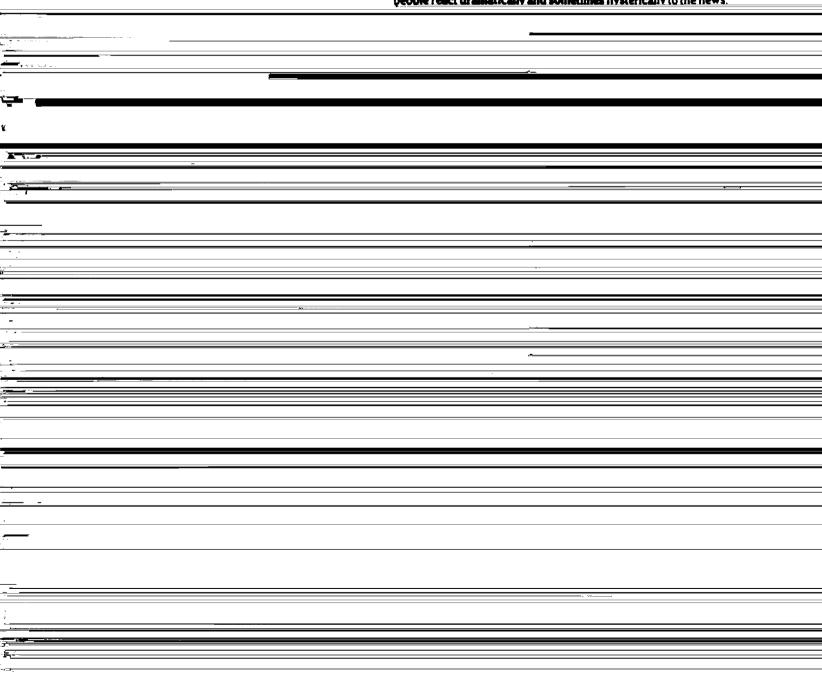
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# COMMENTARY

#### FEAR SELLS

Dateline: Jan. 10, 1993. The St. Petersburg Times ran a Sunday feature story. "A Lethal Connection?" in which a Florida man claimed that his cellular phone caused the brain tumor that killed his wife. Ted Turner's CNN became involved and featured an interview with the aggrieved. From that point forward, the story catapulted to the front pages of the news for four weeks. The media raised questions about the safe use of cellular phones, while the cellular industry countered with studies and documented evidence saying there was no relationship and subsequently no danger presented by using portable phones.

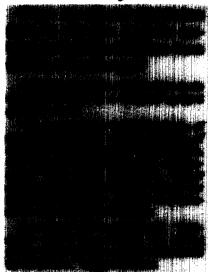
So why did this story surge to the top of the news agenda? Fear. And fear sells. This story proved this. Cancer is one of those diseases that is far too common, but as yet largely unproved in its origin. Everyone knows at least a handful of friends and relatives who have suffered from some form of cancer. And if that cancer has been life-threatening or terminal, the end is usually tragic and painful. Therefore, every time there is a link, no matter how casual, people react dramatically and sometimes hysterically to the news.



# FROM ONE BIG SCARE TO ANOTHER

## As 'Technophobia' Grows, Is Science The Loser?

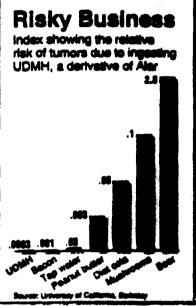
By Michael Furnento In Los Angeles



The cellular phone scare began four weeks ago when a Florida man announced on national television that he was suing a cellular phone manufacturer because his wife developed a fatal brain tumor a few months after beginning to use their product.



Despite this, the stocks of cellular



phone companies initially took a beating, government investigations were launched, and future phone sales have been threatened.



Ironically, one new technology that has been strongly resisted by those

whom scientists call technophobes could have prevented a very real recent health crisis — that of the infection of Jack in the Box hamburgers with E. colibacteria from foces.

The outbreak has resulted in at least three deaths and over 450 hospitalizations in northwestern states. The technophobia involved here is the fear of food irradiation.

According to Harley Everett, vice president of Vindicator, a food irradiation company in Mulberry, Fla.. "E. coli is very succeptable to ionizing radiation. We would anticipate it (irradiation) would add about a quarter of a penny to a Big Mac. about two cents a nound."

Agriculture Secretary Michael Espy also has said that irradiating beef could have prevented the Jack in the Box outbreak.

In the irradiation process, food is hit with ionizing radiation similar to that produced by a medical or airport X-ray device, but at higher levels. The food itself is no more radiated than is luggage after going through airport security.

"It's a direct parallel to the passeurization process of milk." said Everett.

Everett notes that the dose of irradiation that would kill E. coli would also kill other other pathogens. all more common and more harmful than E. coli. including salmonella. listeria. and campylobacteria.

# No Scandal, No Story

TV finds bashing business pays—but it's risky, too



Taking on cellular phones: NBC's Daniels



Made in America? Wal-Mart's Glass



Big beef: ABC's Food Lion investigation

t was a strange week for America's TV viewers. There was Michael Jackson saying that a rare skin disease had turned him white, and talk of longtime FBI Director J. Edgar Hoover wearing dresses. But four minutes of television Tuesday night were almost as extraordinary: NBC's stunning apology to General Motors. "Dateline NBC" had aired an investigation into alleged fire hazards in older GM pickups; a test truck had been fitted with toy rocket engines to make sure spilled gasoline would catch fire. Jane Pauley and Stone Phillips soberly read a retraction settled upon by negotiators just minutes before. Phillips read a list of flaws in the test, including the damning finding that a fuel tank NBC said had ruptured upon impact had in fact remained intact.

The incident did more than just put a dent in NBC's distinguished journalistic tradition. It also raised delicate questions of what's fair game in the growing sport of business exposés—and what should happen when somebody steps over the line. Exposing corporate scams and scandals has always been a mainstay of magazine programs. Yet recent months have seen a rise in business-bashing stories, with controversial investigations of such companies as Wal-Mart, Food Lion and makers of cellular phones. Such exposes "are definitely on the rise," says one TV producer. "We love stories where you shoot the tape and then f— the guy." Many executives believe that they've become victims of TV's hunger for hype and ratings, especially during the "sweeps" period. As Wal-Mart vice president Don Shinkle says, "The

moon is always full during sweeps month."

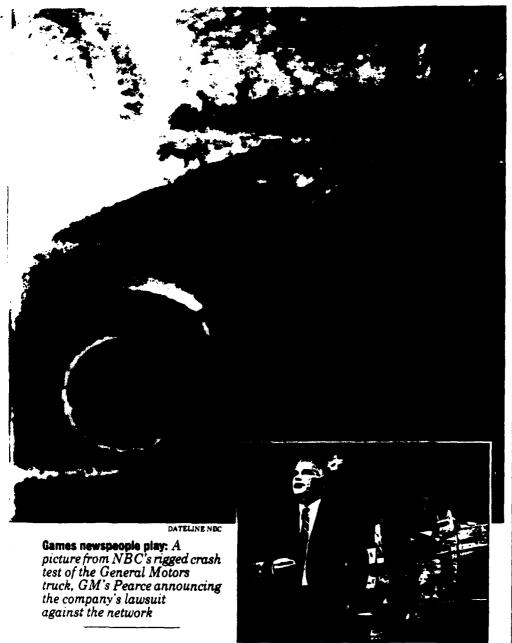
That is painting with a broad brush. Tabloid shows like "Hard Copy" may rely on such ethically questionable techniques as re-enacting events, but programs like "60 Minutes" retain a reputation for playing tough and clean. Still, there's no question that the proliferation of news shows—there are two high-profile entries from ABC and NBC coming later this year—has heightened pressure to get stories and rat-



ings. And, laments CBS News executive producer Andrew Lack, it has changed the way some journalists do business. Many young TV reporters today rate the success of their stories by the overnight ratings: "I don't hear a lot of discussion of the journalism of the stories the next day," Lack says. Other veteran journalists are equally concerned. After the NBC debacle, Dan Rather of CBS met with his staff in small groups to remind them to guard against complacency. "The margin for error is thinner than the margin for error on high-speed racetracks," Rather says.

Of course, journalists are supposed to be aggressive. While the rules aren't etched in stone, most reporters know when they're out of bounds and the consequences of such conduct. Just as evidence gained in an illegal search taints a legal case, dirty reporting taints a story. There are obvious differences between arranging to fake an explosion and, say, surprising a source with unexpected, tough questions. But there can also be considerable murkiness in between. Recent stories aimed at business—and the controversies they triggered—have highlighted some of the ethical shades of gray:

Faking it. NBC's truck test a ren violat-



BLAKE DISCHER—SYGMA

ed its own written guidelines against staging news. On Friday the network said it

NEWSWEEK a March letter in which Jane Pauley said she was impressed that her and wrote Glass and outlined specifics.

■ Going undercover. The magazine shows love hidden cameras. But subjects say the practice is often deceptive. Food Lion is suing Capital Cities/ABC for a November 1992 "PrimeTime Live" expose of alleged unsanitary conditions in the company's supermarkets; hidden cameras purportedly caught Food Lion employees relabeling old meat. The suit alleges that ABC "purposely defrauded" Food Lion by having a producer pose as a supermarket employee; the network says it did nothing wrong.

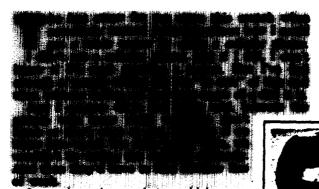
**Relying on interested parties.** Business critics say the media often accept too much help from sources with an agenda. Food Lion had been targeted by unions: GM by lawyers suing over truck accidents. These sources often help shape the coverage by providing experts and leads. Says Joe Goulden, of the conservative Accuracy in Media: "If a guy's got an ax to

grind, let's talk about the ax.

p in the pull that

Will the NBC scandal cause journalists to pull back on business exposes? Don't count on it. GM general counsel Harry

## It's Even Bet We Won't Learn Odds



Or maybe we're not being told because too many people in the media don't want to say, figuring a mild scare makes for a mild story. Which is to say, no story.

Bet you can't even count the number of such scare stories we've had in the past few months. We've been warned that milk can bring on juvenile disbetes, that being a Pentecostal can bring on depression, that electric wiring and sex among leabians can bring on cancer.

Thought you got heart disease from cholesterol? Well, we're informed, maybe it's the level of the blood protein fibrinogen instead. We're reminded, once again, that living alone can make both men and women ill, that childbearing after 40 and dark boose can increase your chances of cancer.

Did I mention cancer? Your chances of gettting bladder cancer could be related to your intake of salt, soda, coffee, crackers, gravy, white bread, sugar, pre-sweetened cereals, eggs, liverwurst and cold cuts, smoke dried meet and smoked fish.

I don't challenge the dangers of any of this. But as chilling as these and countless other revelations are, nearly all of them came to the public without any indication of just how much of a risk they are.

Well, here's an exception (which I had to go back about two years to find): Somebody suggested that you might be in danger of getting cancer if you eat hams having those crisecress markings that come from the elastic netting they're hung in. But you had to read nearly to the story's end to find out just how much of a danger. Long-term exposure to the tiny amount of material left on the ham from the netting translates to a cancer risk of 4 in 1 million.

translates to a cancer risk of 4 in 1 million.

Four in a million? You've got about the same chance of winning a bet that the Cubs will take back-to-back World Series.

Odds. Why should we, the consumers, be denied this same, basic information that even rube gamblers get when they put slows a but? Is not information relating to Wer live and health at least as important

as knowing the odds at the track?

Take a recent story about the dangers of eating raw shellfish. First you got the rhetoric (eating raw shellfish "is a time bomb ready to go off."), then you get the facts: One out of every 1,000 people who eat raw or undercooked shellfish—oysters, clams or mus-sels—may become ill, some seriously. By comparison, the risk of eating seafood in general, excluding

the risk of eating seafood in general, excluding shellfish, is only one case of illness for

every 2 million servings.



Maybe the odds could be expressed in the minutes and seconds of life lost, as suggested by Harvard University physics professor Richard Wilson.

For example, an average person of 30 who has a life expectancy of about 74 years cuts his life short 12 minutes by smoking a cigarette, 9 seconds by drinking a diet soft drink and 2,700 days by being a male.

I'll leave it to the scientists to agree on a suitable measure. Or maybe the government should pick one. That's what it took to get the auto companies to finally use miles-per-gallon measures.

Or meybe reporters should.

Something tells me we'd see plenty of odds then.

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